



## INFECTIOUS DISEASES

### WHAT IS THE PUBLIC HEALTH PROBLEM?

- Infectious diseases are a leading cause of death worldwide and contribute significantly to the escalating costs of health care. In the United States alone, an influenza pandemic would cause an estimated 89,000 to 207,000 deaths, 314,000-734,000 hospitalizations, and the economic impact would range from \$71-\$167 billion.
- Earlier predictions of the elimination of infectious diseases did not take into account changes in demographics and human behaviors and the extraordinary ability of microbes to adapt, evolve, and develop resistance to drugs. More than 35 newly emerging infectious diseases were identified between 1973 and 2000, and new infectious disease threats continue to be identified.
- Infectious diseases can be anywhere – in undercooked hamburgers, on unwashed hands, or carried by blood, water, ticks, or mosquitos. Some, like the pathogens that cause influenza, are familiar foes that have affected humans for centuries. Others, like West Nile virus, are relatively new or emerging threats.

### WHAT HAS CDC ACCOMPLISHED?

In 1994, CDC launched the first phase of a nationwide effort to revitalize national capacity to protect the public from infectious diseases focusing on four goals: (1) Surveillance and Response - to detect, investigate, and monitor emerging pathogens, the diseases they cause, and the factors influencing their emergence; (2) Applied Research - to optimize public health practice; (3) Infrastructure and Training - to strengthen our nation's public health capacity for outbreak detection and response; and (4) Prevention and Control - to ensure prompt implementation of prevention strategies and enhance communication of public health information about emerging diseases.

The second phase of CDC's effort, *Preventing Emerging Infectious Diseases: A Strategy for the 21st Century*, continues to build domestic and global capacity for recognizing and responding to infectious diseases. Providing health departments with resources for building epidemiology and laboratory capacity has dramatically improved our ability to identify, investigate, and rapidly implement control measures in outbreaks (e.g., West Nile Virus, avian influenza in Virginia, norovirus on commercial passenger vessels, Legionnaires disease in nursing homes, vancomycin resistant *Staphylococcus aureus* in multiple states and two cases of bubonic plague in New York City found in tourists).

### WHAT ARE THE NEXT STEPS?

Emerging pathogens and resulting infectious diseases are cause for increasing concern. The outbreak of West Nile virus is the most recent example of a new or re-emerging infectious disease that threatens public health and challenges the capacity of the public health community to respond to new threats. That outbreak demonstrated the importance of continuing to build a strong public health infrastructure at all levels of government in order to mount a rapid and effective response to public health emergencies and develop sustainable disease prevention strategies.

For more information on this and other CDC programs, visit [www.cdc.gov/programs](http://www.cdc.gov/programs).

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